

## CLIMATOLOGICAL DATA FOR JAMAICA, W. I.

Through the kindness of Mr. Maxwell Hall, of Montego Bay, Jamaica, the meteorological service of that colony communicates an abstract of the very interesting climatological records of that highly important West Indian service. The climatological summary furnished by Mr. Hall, through his assistant, Mr. Robert Johnstone, of the Meteorological Office, is reproduced in the following table. For descriptive details of the stations and instruments see Vol. XXV, pages 308 and 356.

Montego Bay, where Mr. Maxwell Hall resides, is between 4 and 5 miles west, and also the same distance north of Kempshot Observatory. The location of the latter is N. 18° 24' 50", W. 77° 52' 22". Stony Hill Reformatory is about 8 miles north of Kingston and within a mile to the west. Hope Gardens is between 3 and 4 miles to the north of Kingston, and about the same distance to the east. From these measurements the latitudes and longitudes given in the following table have been deduced:

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FEBRUARY, 1898.

	Morant Point Lighthouse.	Negril Point Lighthouse.	Kingston.	Montego Bay.	Castleton Gar- dens.	Hope Gardens.	Stony Hill Re- formatory.	Hill Gardens (Ch. Planet.)
Latitude .....	17° 56'	18° 16'	17° 58'	18° 30'	18° 12'	18° 02'	18° 06'	18° 05'
Longitude .....	76° 10'	76° 23'	76° 48'	77° 57'	76° 50'	76° 46'	76° 49'	76° 39'
Elevation (feet) .....	8	23	50	160	580	600	1,400	4,907
Mean barometer { 7 a. m. ....	29.961	29.971	29.970	29.969	29.911	.....	.....	25.279
3 p. m. ....	29.912	29.921	29.907	29.921	29.923	.....	.....	25.245
Mean temperature { 7 a. m. ....	71.1	68.2	67.9	64.8	65.1	65.0	55.9	.....
3 p. m. ....	80.8	82.2	79.7	77.2	80.3	78.5	61.6	.....
Mean of maxima .....	83.5	84.2	82.0	81.8	86.8	81.8	64.9	.....
Mean of minima .....	68.0	66.4	64.7	60.6	61.4	61.9	52.8	.....
Highest maximum .....	87	87.3	85.1	85	94	85	74	.....
Lowest minimum .....	63	63.2	57.4	55	58	59	50	.....
Mean dew-point { 7 a. m. ....	66.8	62.2	65.1	60.9	60.7	62.1	51.9	.....
3 p. m. ....	69.0	67.1	66.3	69.7	69.5	71.5	57.6	.....
Mean relative humidity { 7 a. m. ....	87	81	93	86	87	90	85	.....
3 p. m. ....	68	61	65	74	71	85	85	.....
Monthly rainfall (inches) .....	2.74	0.79	2.66	1.68	1.44	2.72	2.52	4.51
Average daily wind movement .....	204.4	36.3	77.0	.....	.....	.....	18.9	.....
Average wind direction { 7 a. m. ....	nne.	ne.	n.	ene.	.....	.....	e.	.....
3 p. m. ....	n. by e.	se.	ene.	.....	.....	.....	e.	.....
Average hourly velocity { 7 a. m. ....	6.9	9.2	2.1	1.6	.....	.....	.....	.....
3 p. m. ....	8.5	12.7	4.3	5.0	.....	.....	.....	.....
Average cloudiness (tenths):								
7 a. m. { Lower clouds .....	2.5	1.1	0.3	1.4	.....	.....	.....	.....
{ Middle clouds .....	1.4	2.8	0.9	0.9	.....	.....	.....	.....
{ Upper clouds .....	0.7	0.1	1.1	0.0	.....	.....	.....	.....
3 p. m. { Lower clouds .....	3.2	3.5	2.6	0.5	.....	.....	.....	.....
{ Middle clouds .....	1.7	2.1	1.4	2.4	.....	.....	.....	.....
{ Upper clouds .....	0.8	0.2	1.0	0.2	.....	.....	.....	.....

\* ne. by n.

DECEMBER, 1897.

Mean barometer { 7 a. m. ....	29.955	29.965	29.965	29.961	29.926	.....	25.365	.....
3 p. m. ....	29.902	29.901	29.893	29.896	29.600	.....	25.338	.....
Mean temperature { 7 a. m. ....	80.0	72.4	71.1	70.9	68.3	69.1	59.4	.....
3 p. m. ....	82.5	83.0	85.0	81.2	80.3	84.3	64.4	.....
Mean of maxima .....	86.1	88.6	83.5	83.5	88.8	84.5	68.5	.....
Mean of minima .....	69.0	69.7	68.4	64.4	65.3	64.8	55.8	.....
Highest maximum .....	90	91.3	86.0	87	90	87	72	.....
Lowest minimum .....	64	67.7	63.6	60	62	62	52	.....
Mean dew-point { 7 a. m. ....	69.3	65.7	69.0	67.2	64.4	65.7	54.9	.....
3 p. m. ....	71.2	68.5	71.7	72.1	71.3	73.3	59.8	.....
Mean relative humidity { 7 a. m. ....	89	83	94	85	87	89	82	.....
3 p. m. ....	67	58	74	71	65	86	84	.....
Monthly rainfall (inches) .....	3.42	1.99	0.09	3.87	7.75	0.75	2.90	6.63
Average daily wind movement .....	222.9	41.1	81.3	.....	.....	.....	50.9	.....
Average wind direction { 7 a. m. ....	ne.	ne.	n.	e.	.....	.....	e.	.....
3 p. m. ....	ne.	*	sse.	ene.	.....	.....	e.	.....
Average hourly velocity { 7 a. m. ....	7.6	8.8	1.4	1.5	.....	.....	.....	.....
3 p. m. ....	10.2	13.4	2.7	5.1	.....	.....	.....	.....
Average cloudiness (tenths):								
7 a. m. { Lower clouds .....	2.0	1.6	0.2	1.8	.....	.....	.....	.....
{ Middle clouds .....	2.0	1.5	0.9	0.1	.....	.....	.....	.....
{ Upper clouds .....	0.9	0.2	1.3	0.3	.....	.....	.....	.....
3 p. m. { Lower clouds .....	1.8	4.0	1.8	1.1	.....	.....	.....	.....
{ Middle clouds .....	1.7	1.9	1.6	1.5	.....	.....	.....	.....
{ Upper clouds .....	0.7	0.5	1.1	0.0	.....	.....	.....	.....

\* ne. by n.

## OBSERVATIONS AT HABANA, CUBA.

Through the kindness of the Director of the Belen Observatory, Rev. L. Gangotti, the observations made at that station at 1 p. m., Greenwich mean time, or 8 a. m., seventy-fifth meridian time, are communicated to the Weather Bureau promptly by mail, and are herewith published for general use. The position of the observatory is N. 23° 8' 14", W. 76° 9' 42", from San Fernando, or 69° 57' west from Greenwich; altitude of the barometer 24.347 meters (79.7 feet); the barometric readings have been reduced to sea level and converted into English measures by the Director. The correction for local gravity has not been applied; so far as it concerns latitude, the correction for 30 inches of mercury is — 0.054 inch. The clouds are observed with much minuteness; two kinds are frequently recorded under the general heading of "upper" or "lower"; in these cases the two kinds are printed in the accompanying table in the same column but separated by a semi-colon; their respective directions are also separated by a semi-colon. The rainfall is given for the twenty-four hours ending with 1 p. m., Greenwich time. Most of these observations seem to be read off from the records of the Secchi meteorograph, but the directions of the clouds have apparently been observed accurately by the use of the reflecting nephoscope. The kinds of clouds are indicated in the accompanying table, by the same letters as those used in the original manuscript, which undoubtedly agree with the following paragraph quoted from the annual volume published by the same observatory:

The clouds are classified as upper and lower; among the upper clouds the following are included, arranging them in the order of decreasing altitude from above downward, viz: *c*, cirrus; *ck*, cirro-cumulus; *cs*, cirro-stratus; *ka*, alto-cumulus. Among the lower clouds the following are included: *kb*, lower cumulus; *sk*, strato-cumulus; *s*, stratus, and *n*, nimbus. The false cirrus is not included; the lower cirro-cumulus is included with the alto-cumulus and the cumulo-nimbus is included with the strato-cumulus.

*Meteorological data, Habana, Cuba, February, 1898.*

Date.	Barometer reduced to sea level.	Temperature of air.	Relative hu- midity.	Wind.		Upper clouds.			Lower clouds.			Total rainfall.
				Direc- tion.	Veloc- ity.	Kind.	Am't.	Direc- tion.	Kind.	Am't.	Direc- tion.	
	<i>Inches</i>	<i>°</i>	<i>%</i>		<i>Miles</i>							<i>Inch</i>
1.....	30.08	70.2	80	n.	13	.....	0	.....	sk.; s.	10	n.	0.77
2.....	30.18	62.8	73	n.	11	.....	0	.....	k.; sk.; s.	8	ese.; ene.	0.01
3.....	30.27	64.6	64	nw.	12	.....	0	.....	k.; sk.	3	nw.	0.00
4.....	30.25	64.8	81	nww.	20	.....	0	.....	k.; sk.; s.	10	se.; nne.	0.00
5.....	30.15	66.6	56	e.	1	.....	0	.....	k.; sk.	2	ne.	0.26
6.....	30.13	68.4	73	w.	11	k.	4	nww.	k.; sk.	2	n.; nww.	0.22
7.....	30.18	63.5	60	nne.	5	.....	0	.....	k.	1	ne.	0.00
8.....	30.19	62.1	74	ese.	0.5	.....	0	.....	k.; sk.	4	ene.	0.00
9.....	30.16	64.0	56	e.	1	.....	0	.....	sk.	F.	.....	0.01
10.....	30.12	68.4	79	e.	13	k.	1	e.	sk.	F.	.....	0.00
11.....	30.17	66.7	85	e.	8	.....	0	.....	sk.	F.	.....	0.00
12.....	30.20	64.8	84	ese.	1	k.	2	ene.	sk.	F.	.....	0.00
13.....	30.18	62.8	82	.....	0	k.	2	ne.	k.; sk.	F.	.....	0.00
14.....	30.13	64.2	83	.....	0	.....	0	.....	sk.	F.	.....	0.00
15.....	30.05	67.8	80	ese.	4	k.	F.	ws.w.	.....	0	.....	0.00
16.....	30.08	67.3	91	sse.	1	k.	1	w.	k.; sk.	4	ne.; ene.	0.03
17.....	30.09	69.3	78	e.	10	cs.; k.	1	w.; s.	k.	F.	.....	0.00
18.....	30.09	69.3	83	e.	7	.....	0	.....	.....	0	.....	0.00
19.....	30.03	68.9	85	se.	2	k.	F.	se.	sk.	F.	.....	0.00
20.....	30.05	69.6	91	.....	0	k.	F.	nw.	k.	1	nw.	0.00
21.....	30.02	70.3	86	.....	0	cs.; k.	3	ws.w.	k.; sk.	5	nw.; sw.	0.01
22.....	30.05	66.7	56	nww.	13	k.	1	nww.	k.	2	nw.	0.13
23.....	30.09	62.8	64	nww.	4	c.; cs.	4	w.	k.; sk.	2	ne.	0.00
24.....	30.15	67.1	61	n.	9	k.	F.	nww.	k.	2	nne.	0.00
25.....	30.13	70.0	70	n.	18	k.	F.	nww.	sk.; s.	6	nne.; ne.	0.00
26.....	30.16	63.5	77	ne.	1	k.	F.	.....	k.; sk.	1	nne.	0.51
27.....	30.12	63.7	76	.....	0	k.	F.	nw.	k.; sk.	F.	.....	0.00
28.....	29.98	63.3	82	e.	2	k.	7	nww.	k.; sk.	F.	.....	0.00
Sum.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.97

## MEXICAN CLIMATOLOGICAL DATA.

Through the kind cooperation of Señor Mariano Bárcena, Director, and Señor José Zendejas, vice-director, of the Central Meteorologico-Magnetic Observatory, the monthly summaries of Mexican data are now communicated in manuscript, in advance of their publication in the *Boletín Mensual*; an abstract translated into English measures is here given in continuation of the similar tables published in the MONTHLY WEATHER